

V. FINAL REMARKS AND CONCLUSION

To conduct vulnerability study of current buildings in Algiers, the district of Bab El Oued has been selected. Buildings in this old part of the capital city are mainly residential, made of unreinforced stone masonry, with a number of floors varying from 1 to 6. Field investigations revealed a large variation of construction materials and process. A majority of the investigated buildings are in poor state of conservation. Past earthquakes revealed the high vulnerability of stone masonry buildings, which caused high human and economic losses. The seismic vulnerability of masonry buildings is due to their heavy weight and essentially to the manner in which the walls have been built, interconnected and anchored at the floor and roof levels. If the quality of construction and materials is inadequate, damages of various degrees occur. The use of mixed structural units and systems, and poor quality of mortar are the main reasons for structural damage of masonry buildings. The study revealed that more than 70% of the buildings in the district are unreinforced masonry. According to the EMS-98 definitions 90% of these buildings are class A and B, and, in case of stronger earthquake the damage will be high reaching 80%.

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